

Date: Wednesday, 09/08/2006 7:29:44 AM  
 User: Linda Lacelle

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : 206L AFT X-TUBE
<b>Job Number</b> : 27492	
<b>Estimate Number</b> : 10973	
<b>P.O. Number</b> : N/A	<b>Part Number</b> : D206667203A
<b>This Issue</b> : 09/08/2006 <b>S.O. No.</b> : N/A	<b>Drawing Number</b> : D206-667-243 REV B
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : 12/06/2006 <b>Type</b> : LANDING GEAR	<b>Drawing Revision</b> : B
<b>Previous Run</b> : 27491	<b>Material</b> : N/A
<b>Written By</b> : <u>SEE COMMENT BELOW</u>	<b>Due Date</b> : 15/07/2006 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : _____	
<b>Comment</b> : Est Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-203 CHG002

K-3 06 06-07

2.0	D6004115	Crosstube material
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6004-115 Crosstube

Check OD = 2.500"; ID = 1.800"

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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**Comment:** MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA089

2-Turn first side as per Folio FA089

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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**Comment:** INSPECT ALL DIM TO DIM SHEET

Date: Wednesday, 09/08/2006 7:29:44 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA089

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

3-Polish entire outside surface of crosstube

4-Remove sand and plugs

5-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243.

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

N/A

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

9.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF and Folio FT

10.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

11.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes.

Date: Wednesday, 09/08/2006 7:29:44 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243  
Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.

8-C'sink holes as per Dwg D206-667-243.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

14.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

15.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O:

LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

Date: Wednesday, 09/08/2006 7:29:44 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:	Machine Or Operation:	Description :
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16.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1  
Inspect for transit damage  
Ensure copy of NDT results attached to work order.

17.0	QC6	DIMENSIONAL CHECK
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Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

18.0	D2873045	Nut Plate Assembly
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Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Pick:  
Qty Part number Description Batch  
2 D2873-045 Nut Plate \_\_\_\_\_

N/A  
J

19.0	D2873043	Nut Plate Assembly
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Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Pick:  
Qty Part number Description Batch  
2 D2873-043 Nut Plate \_\_\_\_\_

20.0	MS20601AD4W10	RIVET
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Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)  
Pick:  
Qty Part number Description Batch  
14 MS20601AD4W10 Rivet \_\_\_\_\_

21.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Install nut plates as per Dwg D206-667-243.

Date: Wednesday, 09/08/2006 7:29:44 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:

Machine Or Operation:

Description :

22.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Mask Threaded holes

2-Prime inside and outside crosstube as per QSI 005 4.2

3-Paint outside crosstube with White Imron as per QSI 005 4.2

23.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

24.0

D2856400

Abrasion Strip



Comment: Qty.: 1.3525 f(s)/Unit Total : 1.3525 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 7.73") Abrasion Strip

25.0

D28921

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2892-1 Support

26.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22 Clamp

27.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8580. .Note: (3) top holes should be facing up.

Date: Wednesday, 09/08/2006 7:29:44 AM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

28.0

QC5

INSPECT WORK TO CURRENT STEP



NIA  
[Signature]

Comment: INSPECT WORK TO CURRENT STEP

29.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Remove tube from packaging

2-Apply Armor shield as per DSI 9326

A/R Armor Shield Batch: M101241

06-08-08 (1)  
[Signature]

30.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

06-08-08 (1)  
[Signature]

31.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

32.0

AN534A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: \_\_\_\_\_

NIA  
[Signature]

33.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Nut

Batch: \_\_\_\_\_

34.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:Packing Kit

Qty Part number Description Batch

Date: Wednesday, 09/08/2006 7:29:44 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203A

Job Number:



Seq. #:

Machine Or Operation:

Description :

10 AN5-10A

Bolt

35.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

4 AN5-32A

Bolt

36.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Pick:Packing Kit

Qty Part number

Description Batch

18 AN960JD516

Washer

37.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

38.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-203

Location:

PPP Rev:

39.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Date: Monday, 6/12/2006 3:27:13 PM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : 206L AFT X-TUBE  
 Job Number : 27492  
 Estimate Number : 10973  
 P.O. Number :  
 This Issue : 6/12/2006 S.O. No. :  
 Prsht Rev. : NC Part Number : D206667203  
 First Issue : // Type : LANDING GEAR Drawing Number : D206-667-243 REVB  
 Previous Run : 27491 Drawing Revision : B  
 Material :  
 Due Date : 7/15/2006 Qty: 1 Um: Each  
 Written By :  
 Checked & Approved By : *06.06.13*  
 Comment : Est Rev F 05.09.01 Add holes for compatibility with Bell  
 Skidtubes KJ/JLM

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-203 CHG002

2.0 D6004115 Crosstube material



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6004-115 Crosstube *B23968*

Check OD = 2.500"; ID = 1.800"

*BG 06.06.14*

3.0 MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand &amp; install plugs DT8534 on both ends as per Folio FA089

2-Turn first side as per Folio FA089

3-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

*MS 06/06/16*

4.0 QC1 INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

*MS 06/06/16*



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:13 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA089

2-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243.

3-Polish entire outside surface of crosstube

4-Remove sand and plugs

5-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243

MS 06/06/16 1

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

MS 06/06/16 1

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

BC 06.07.26 1

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

FT 06 0726

9.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF and Folio FT\_\_\_\_\_

Pn 06-07-26(1)

10.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

AD 060726(1)

11.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

Pn 06-07-30(1)

Pn 06-07-30(1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:14 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.

8-C'sink holes as per Dwg D206-667-243.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243

*Pm*  
06-07-31 ①

12.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*06-07-31*

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*a.m* 06-07-31 ①

14.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*06-08-01* ①

15.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 1757

LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

*c206/08/01* ①

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

*AL* 06/08/02 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:14 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

18.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-045

Nut Plate

B25073

27 06-08-04

19.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2873-043

Nut Plate

B25052

27 06-08-04

B26409 (1)  
Pm 06-08-08

20.0

MS20601AD4W10

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Pick:

Qty Part number Description Batch

14. MS20601AD4W10 Rivet

M1911

27 06-08-08

14 MS20601AD4W10

M19191

DP 06-8-8

14  
+ 14

ATT  
A

21.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install nut plates as per Dwg D206-667-243.

22.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Mask Threaded holes

2-Prime inside and outside crosstube as per QSI 005 4.2

3-Paint outside crosstube with White Imron as per QSI 005 4.2

FC 06 08 03 (1)

27 06-08-04 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
06.08.08	20	rivet length change. Design change to estimate: Dwg. <i>[Signature]</i>	PH per QSI 042 05.08.08	06.08.09	14	PH per QSI 042 06.08.09	<i>[Signature]</i> 06.08.08

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:14 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

06-08-08

24.0

D2856400

Abrasion Strip



Comment: Qty.: 1.3525 f(s)/Unit Total : 1.3525 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400(Cut to 7.73") Abrasion Strip 0627545 06-08-06

25.0

D28921

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch 618214

2 D2892-1 Support 06-08-04

26.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch 06-08-04

4 MS21920-22 Clamp 06-08-04 (bag)

27.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8580. .Note: (3) top holes should be facing up.

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

06-08-06  
06-08-06

28.0

QC5


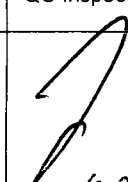
INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
06-08-08	27	hole angle deviation	per 06-09-03 per QSI 042 see attached e-mail	See E-mail: NCR 071.	per 06-08-06	 06-08-08	per 06-09-03 per QSI 042 see e-mail	 06-08-08

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA:  Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:14 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:	Machine Or Operation:	Description :
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29.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

- Pick Packing Kit

30.0	AN534A	Bolt
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Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bolt

Batch: M13912 x 1

M19512 x 3

31.0	MS21042L5	Nut
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Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Nut

Batch: M101648

32.0	AN510A	Bolt
------	--------	------



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:Packing Kit

Qty Part number Description Batch

10 AN5-10A Bolt M16941

33.0	AN532A	Bolt
------	--------	------



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:Packing Kit

Qty Part number Description Batch

4 AN5-32A Bolt M101281

34.0	AN960JD516	Washer
------	------------	--------



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)

Pick:Packing Kit

Qty Part number Description Batch

18 AN960JD516 Washer M101369

AB 06/08/08 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/12/2006 3:27:14 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 27492

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

CS 6/08/08 ①

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-203

Location: \_\_\_\_\_

PPP Rev: C

AB 06/02/09 ①

37.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

DD 06/08/09 ①

Job Completion



U 06-08-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

**DART**

DESIGN PH	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #DS	APPROVED #DS	DRAWING NO. D206-667-243	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH AFT) NTS	
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

**RELEASED**  
05 07 26 #

Qty	Part Number	Description
X	D206-667-243	CROSSTUBE ASSEMBLY
1	D6004-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2892-1	SUPPORT
14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
4	MS21920-22	CLAMP

**GENERAL NOTES:**

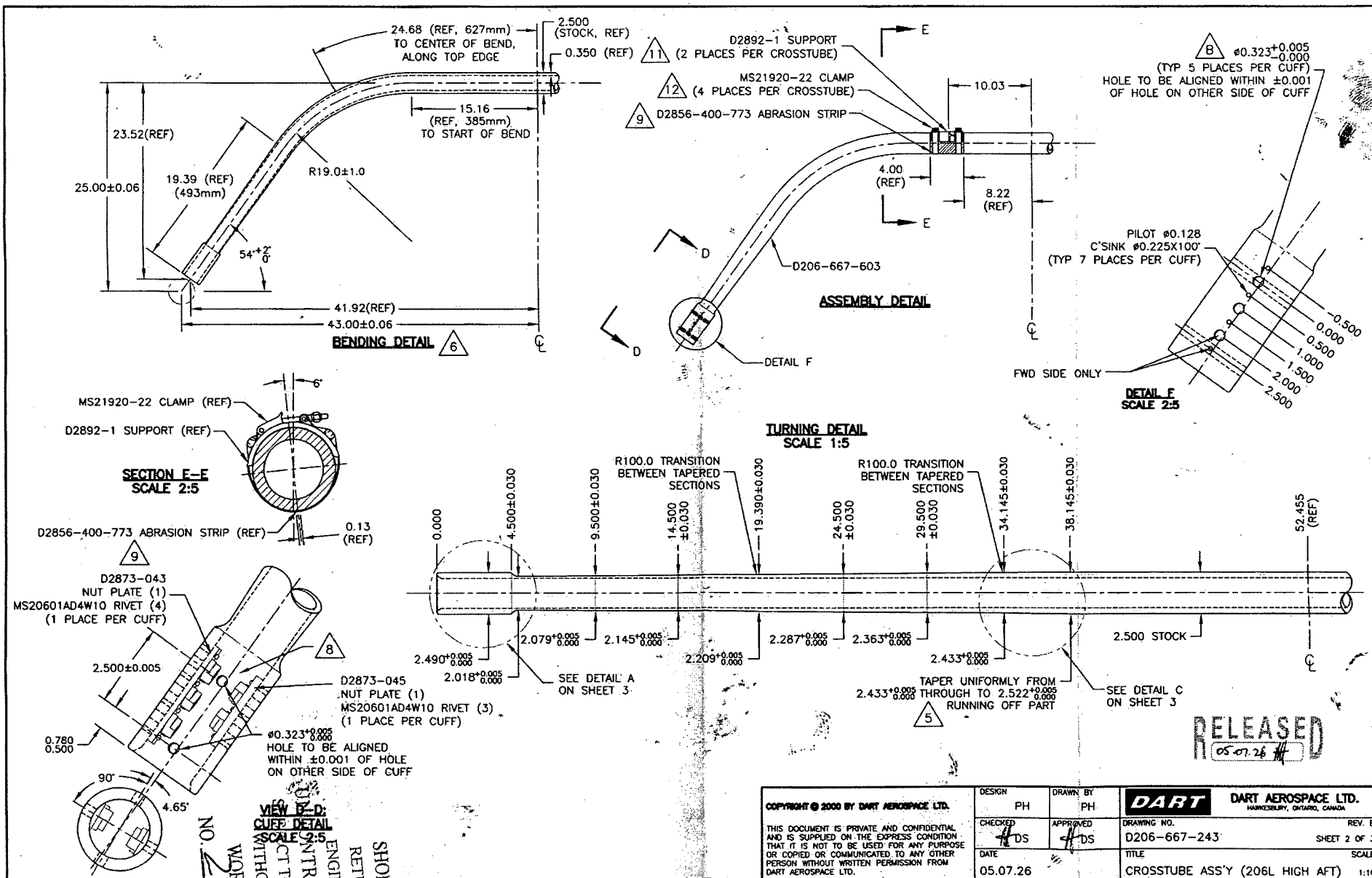
- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6004-115  
FINISHED LENGTH = 104.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2892-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 27492

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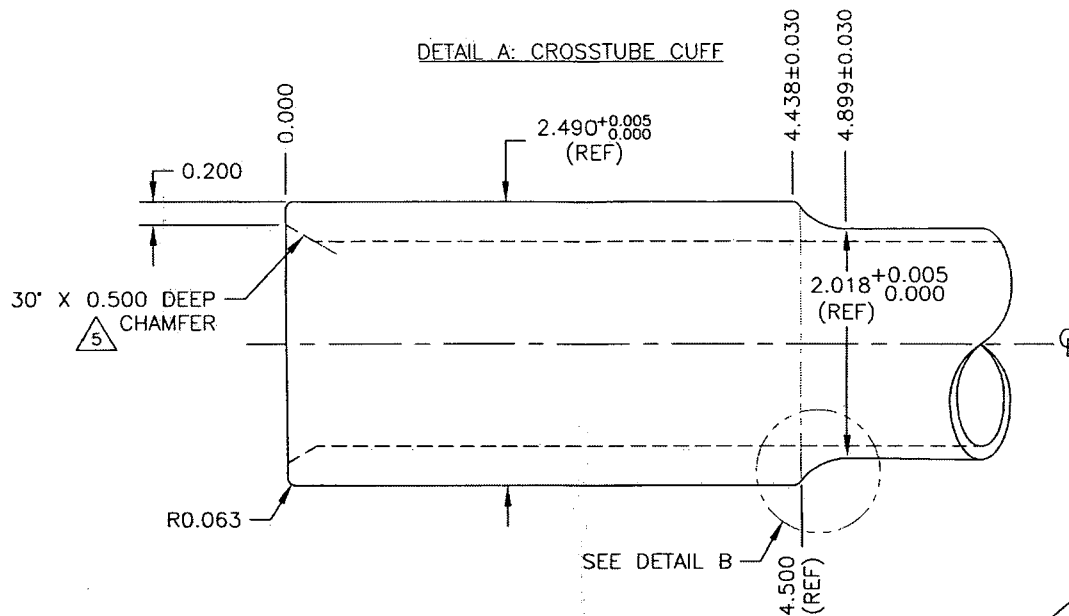




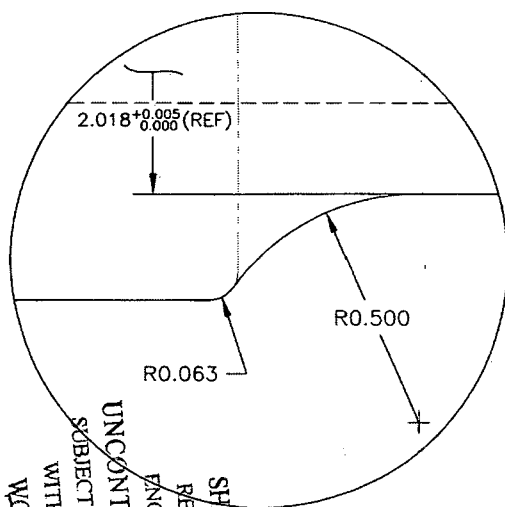


RELEASED  
05.07.26

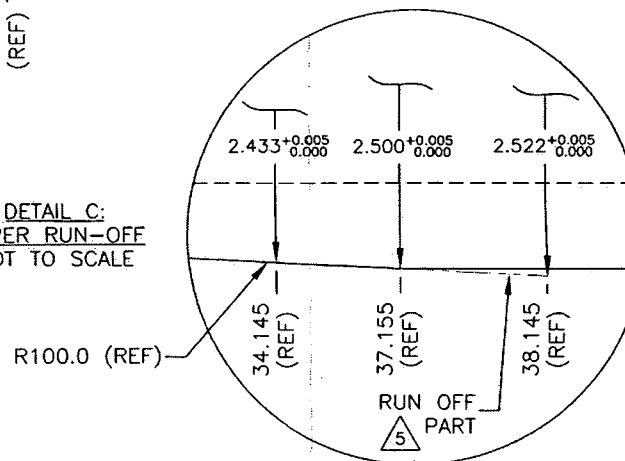
DETAIL A: CROSSTUBE CUFF



DETAIL B: CUFF  
TRANSITION  
SCALE 4:1



DETAIL C:  
TAPER RUN-OFF  
NOT TO SCALE



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PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN PH	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. HAMMERSBURT, ONTARIO, CANADA
CHECKED ADS	APPROVED ADS	DRAWING NO. D206-667-243	REV. B SHEET 3 OF 3
DATE 05.07.26	TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE 1:1	

NO. 27292  
WORK ORDER  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
UNCONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY

DART AEROSPACE LTD		Work Order: 27492
Description: Crosstube Assembly		Part Number: 0206667203
Inspection Dwg: 0206667-243 Rev: B		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

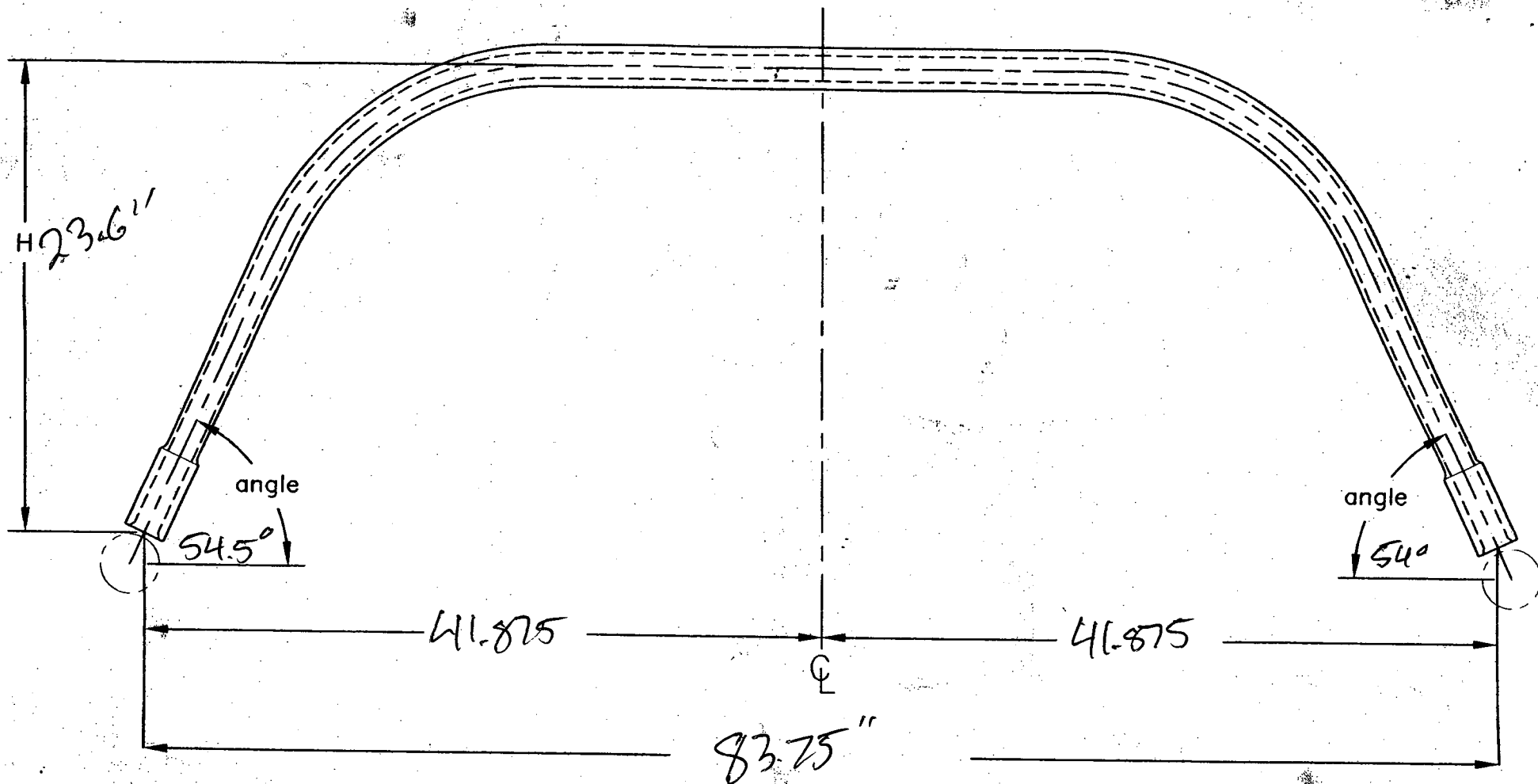
☒ First Article
 ☐ Prototype

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.490	+0.005 -0.000	2.494	✓			
	2.018	+0.005 -0.000	2.022	✓			
	2.079	+0.005 -0.000	2.082	✓			
	2.145	+0.005 -0.000	2.149	✓			
	2.209	+0.005 -0.000	2.213	✓			
	2.287	+0.005 -0.000	2.290	✓			
	2.363	+0.005 -0.000	2.367	✓			
	2.433	+0.005 -0.000	2.438	✓			
			.200	✓			
	0.200	+/- 0.010					
	0.500 X 30°	+/- 0.010	.500	✓			
	Ro.063	+/- 0.010	.063	✓			
	Ro.500	+/- 0.010	.500	✓			
	4.438	+/- 0.030	4.450	✓			
SIDE B	104.91	+/- 0.020	104.91	✓			
	2.490	+0.005 -0.000	2.493	✓			
	2.018	+0.005 -0.000	2.022	✓			
	2.079	+0.005 -0.000	2.082	✓			
	2.145	+0.005 -0.000	2.148	✓			
	2.209	+0.005 -0.000	2.212	✓			
	2.287	+0.005 -0.000	2.290	✓			
	2.363	+0.005 -0.000	2.365	✓			
	2.433	+0.005 -0.000	2.437	✓			
	0.200	+/- 0.010	.200	✓			
	0.500 X 30°	+/- 0.010	.500	✓			
	Ro.063	+/- 0.010	.063	✓			
	Ro.500	+/- 0.010	.500	✓			
	4.438	+/- 0.030	4.450	✓			

Measured by: MS	Audited by: Bc	Prototype Approval: N/A
Date: 06/06/16	Date: 06.07.2016	Date: N/A

Rev	Date	Change	Revised by	Approved
A	05.12.12	New Issue	KJ/RF	





DATE: 06-07-28

DESCRIPTION: D206-667-263

BATCH NO: B27492

DRAWING: D206-667-243 Rev B

H: 23.52 ± .06

1/2 SPAN: 41.92 ± .06

TOTAL SPAN: 83.84 ± .06

ANGLE: 54 ± 2°

24193

1371-21

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# HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3  
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 34601

A.M.O. Number: 46/90

## NON-DESTRUCTIVE TESTING REPORT

### AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

### INSPECTION REQUIREMENTS

Carry out FPI of four (4) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty. (2) P/N D206-667-103 S/N's B26702 & B26704

Qty. (2) P/N D206-667-203 S/N's B27491 & B27492

☐ RADIOGRAPHY

☐ ULTRASONIC

☒ PENETRANT

☐ MAGNETIC PARTICLE

☐ EDDY CURRENT

### INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on four (4) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)  
Ardrox 970P25E Batch #04B503.

Four (4) cross tubes PASSED inspection.

*[Signature]*  
06-08-02

~~THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH  
THE APPLICABLE STANDARDS OF AIRWORTHINESS~~

INSPECTED BY: *[Signature]*

DATE August 1, 2006

INSPECTION  
STAMP(S) Not Required

### CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER

00001757

ADDRESS:

CONTACT NAME:

LABOUR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

INVOICE NO.

TOTAL \$

WHITE COPY - INSPECTION FILE • YELLOW COPY - CUSTOMER • PINK COPY - ACCOUNTANT

**DART**

DESIGN <i>PH</i>	DRAWN BY <i>PH</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>J.J.</i>	APPROVED <i>J</i>	DRAWING NO. DSI 9326	REV. A SHEET 1 OF 1
DATE 06.02.14		TITLE ARMOR SHIELD	SCALE NTS
A	06.02.14	NEW ISSUE	

## DART SERVICE INSTRUCTION

To further protect Dart crosstubes from mechanical damage in service, they may be treated with "Armor Shield" surface treatment.

INSTALLATION	CANADIAN STC	FAA STC
D205-596-101/-103/-105/-107	SH03-6	SR01742NY
D212-664-101/-201	SH01-9	SR01298NY
D412-664-203		
D206-667-101/-103/-201/-203	SH01-5	SR01304NY
D407-667-105/-205		
D058-676-101/-201	N/A	SR01018SE

To designate crosstubes with 'Armor Shield' add 'A' to the Part Number. For example, D206-667-101A is a D206-667-101 crosstube coated with Armor Shield. It is acceptable to apply the Armor Shield in regions shown in Figure 1 only. It is **NOT** acceptable to apply Armor Shield in the cuff and support/clamp regions.

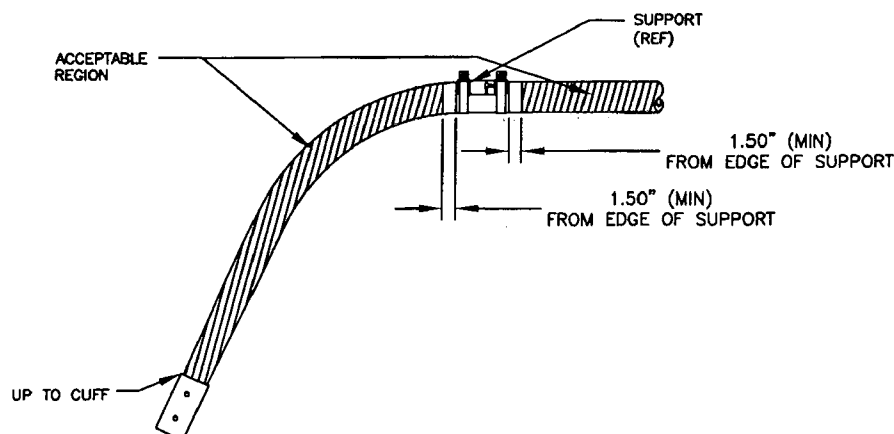
### 1.0 To apply Armor Shield

- 1) Ensure the crosstube is appropriately finished in accordance with the relevant manufacturing drawing or Instruction for Continued Airworthiness (ICA).
- 2) Mask areas around supports and cuffs per Figure 1. Abrade paint finish in areas requiring protection using 320 grit sandpaper.
- 3) Clean/degrease surface of crosstube using Methyl Ethyl Ketone (MEK), 4105S Wash'n'Wipe Degreaser, or equivalent and wipe the surface to clean the entire area
- 4) Apply 3 coats of Proform PF 746 or PF 746-1 to surface (apply additional coats when surface is dry, but not fully cured)
- 5) Allow 5 hours for coating to dry.
- 6) Apply 2 coats of Imron 500s Polyurethane Enamel clear + Dupont Imron Polyurethane Enamel Activator 192S (mix 3:1). Mix 15 minutes prior to application and allow 15 minutes before applying additional coats.

### 2.0 Armor Shield removal/re-application

To remove the Armor Shield coating or if damage to the coating and/or crosstube is observed during inspection.

- 1) Remove Armor Shield from the affected area using 80 grit sandpaper. To remove Armor Shield from larger areas, bead blasting has been determined to be the most effective technique.
- 2) Repair mechanical damage (within limits) to the crosstube and touch up finish in accordance with the relevant ICA.
- 3) Apply Armor Shield in accordance with Section 1.0 of these instructions.



**FIGURE 1 - ACCEPTABLE REGIONS TO BE COATED WITH ARMOR SHIELD**

CANADA DEPARTMENT OF TRANSPORT AIRCRAFT CERTIFICATION BRANCH DAO # 01-O-01	
<b>APPROVED</b>	
BY:	<i>D. Shepherd</i> D. SHEPHERD (DE # 02)
DATE:	06.02.14
CERT. NO.:	SH03-6/SH01-9/SH01-5
ISSUE NO.:	3/3/3

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**Peter Hum**

---

**From:** David Shepherd [dshepherd@dartaero.com]  
**Sent:** August 8, 2006 4:34 PM  
**To:** 'Peter Hum'  
**Cc:** 'Bill Beckett'; 'Serge Shahbazian'  
**Subject:** FW: re-work of 206B and 206L and 407 crosstubes

Peter,

You will also have to remove and re-install the top clamps in the proper orientation.

David

---

**From:** David Shepherd [mailto:dshepherd@dartaero.com]  
**Sent:** Tuesday, August 08, 2006 2:11 PM  
**To:** 'Peter Hum'  
**Cc:** 'Bill Beckett'; 'Serge Shahbazian'  
**Subject:** RE: re-work of 206B and 206L and 407 crosstubes

As discussed, this is an acceptable repair scheme for these crosstubes.

David

---

**From:** Peter Hum [mailto:phum@dartaero.com]  
**Sent:** Tuesday, August 08, 2006 1:16 PM  
**To:** 'David Shepherd'  
**Cc:** Bill Beckett; Serge Shahbazian  
**Subject:** re-work of 206B and 206L and 407 crosstubes

David,

With respect to current stock of the 206B, 206L and 407 crosstubes:

It appears the holes for OEM compatibility were drilled on the incorrect sides (i.e. sides requiring 3 holes only have 2; and sides requiring 2 holes have 3); additionally the nut plates are oriented incorrectly

To correct this problem is it acceptable to perform the following

- 1) The D2873-043/-045 radius blocks are installed on the incorrect sides. Remove the D2873-043/-045 radius blocks from all cuffs
- 2) Drill the required hole for the fwd side of the cuff and install the D2873-043 radius block
- 3) Install the required D2873-045 radius block on the aft side of the cuffs\*\*\*

\*\*\*On all affected installations, an extra hole will be present on the aft side of all of the cuffs; affected customers/stock will receive a DSI indicating this.

Peter

09/08/2006





# HeathAir

INTERNATIONAL (1991) INC.

681 Ave. Lepine, Dorval, Québec H9P 1G3  
Tél: (514) 636-1000 • Fax: (514) 636-0031

W.O. No 34601

A.M.O. Number: 46/90

## NON-DESTRUCTIVE TESTING REPORT

### AIRCRAFT / COMPONENT INFORMATION

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

### INSPECTION REQUIREMENTS

Carry out FPI of four (4) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty. (2) P/N D206-667-103 S/N's B26702 & B26704

Qty. (2) P/N D206-667-203 S/N's B27491 & B27492



RADIOGRAPHY



ULTRASONIC



PENETRANT



MAGNETIC PARTICLE



EDDY CURRENT

### INSPECTION REPORT

Fluorescent penetrant inspection was performed in accordance with the above requirements on four (4) cross tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)

Ardrox 970P25E Batch #04B503.

Four (4) cross tubes PASSED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH  
THE APPLICABLE STANDARDS OF AIRWORTHINESS

INSPECTED BY:

  
S. FLETCHER

DATE: August 1, 2006

INSPECTION  
STAMP(S)

Not Required

### CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER: 00001757

ADDRESS:

CONTACT NAME:

LABOUR

@

\$

MATERIALS

@

TRAVEL EXPENSES

@

GST

HOTEL EXPENSES

@

PST

INVOICE NO.

TOTAL \$

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